

What is claimed is:

1. A vehicle collision object discriminating apparatus comprising:
a front surface side sensor and a reverse surface side sensor which
5 are respectively disposed at front and reverse sides of a cushioning member
with respect to a collision direction of a vehicle body for generating an
output signal representing an impact force entered when the vehicle body
collides with a collision object, and
a discriminating section for discriminating the type of the collision
10 object based on output signals of said front and reverse surface sensors,
wherein said discriminating section discriminates the type of said
collision object based on an ON duration time or an ON time difference as
well as a combination of output levels of said two sensors, said ON duration
time representing a period of time during which at least one of said two
15 sensors continuously produces an ON-level output, said ON time difference
representing a period of time from ON-level output by one of said two
sensors to ON-level output by the other of said two sensors.
2. The vehicle collision object discriminating apparatus in
20 accordance with claim 1, wherein said front and reverse surface side sensors
are binary sensors each outputting a binary signal with reference to a
predetermined threshold.
3. The vehicle collision object discriminating apparatus in
25 accordance with claim 1, wherein said front surface side sensor is fixed on a
front surface of said cushioning member and said reverse surface side sensor
is fixed on a reverse surface of said cushioning member.
4. The vehicle collision object discriminating apparatus in
30 accordance with claim 1, wherein said discriminating section identifies said

collision object with a pedestrian when said ON duration time is shorter than a predetermined ON duration time threshold and when said reverse surface side sensor produces an ON-level output within a predetermined time after said front surface side sensor has produced an ON-level output under a condition that said front surface side sensor continuously produces the ON-level output.

5 5. The vehicle collision object discriminating apparatus in accordance with claim 1, wherein said discriminating section identifies said collision object with a pedestrian when the ON time difference is longer than a predetermined ON time difference threshold, said ON time difference representing a period of time from ON-level output by said front surface side sensor to ON-level output by said reverse surface side sensor.

15 6. The vehicle collision object discriminating apparatus in accordance with claim 1, wherein said discriminating section identifies said collision object with a pedestrian when said ON duration time is shorter than a predetermined ON duration time threshold and when said reverse surface side sensor does not produce an ON-level output within a predetermined time after said front surface side sensor has produced an ON-level output under a condition that said front surface side sensor continuously produces the ON-level output.

25 7. The vehicle collision object discriminating apparatus in accordance with claim 1, said discriminating section identifies said collision object with a pedestrian when the ON duration time of said front surface side sensor is in a predetermined range between a first ON duration time threshold and a second ON duration time threshold and also when said reverse surface side sensor does not produces an ON-level output within a predetermined time after said front surface side sensor has produced an

ON-level output under a condition that said front surface side sensor continuously produces the ON-level output.

8. The vehicle collision object discriminating apparatus in
5 accordance with claim 1, wherein said discriminating section selects, in
response to entry of an input signal relating to a vehicle speed, an ON
duration time threshold or an ON time difference threshold preferably
applicable to said input signal relating to said vehicle speed with reference
to a pre-memorized relationship between the vehicle speed and said ON
10 duration time threshold or said ON time difference threshold.